## Screen size and guest distance

### Large Screens

<table>
<thead>
<tr>
<th>Screen Size</th>
<th>2-3’</th>
<th>5’</th>
<th>10’</th>
<th>15’+</th>
<th>multiuser</th>
</tr>
</thead>
<tbody>
<tr>
<td>55” Portrait Single User</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4k - 2160 x 3840)</td>
<td></td>
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<tbody>
<tr>
<td>84” Landscape</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>(3840 x 2160)</td>
<td></td>
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<tbody>
<tr>
<td>55” Portrait (3)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>(4k - 2160 x 3840)</td>
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<tbody>
<tr>
<td>Table top</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OTT - Dpad requires a grid of some sort, larger font and less text. May also have touch and can be controlled by phone.

### Small Screens

<table>
<thead>
<tr>
<th>Screen Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
<td>x</td>
</tr>
<tr>
<td>Tablet</td>
<td>x</td>
</tr>
</tbody>
</table>
Mobile and Tablet

- single authenticated user
- private personal experience
- screen gets busy quick
Large Public Touch Screen

- single user
- larger screen
- public personal experience
- typing & interactions more challenging (than mobile)
- more space for information
TV

- single or multi user
- private experience
- distant screen
- 4 direction device navigation (primary)
Multi or Large Screen(s)

- multi user
- very public experience
- very large screen
- multi distance views,
- typing or many touches challenging
Table

- multi user
- semi-private experience
- very large screen
- multi directional views
- distance arms length
- navigation challenges

“Thought you looked familiar.”
“I feel like we’re building something.”
“That’s me”
“How are we connected?”

Size indicates relationships and connections.

Guest avatars create immediate recognition.

“That’s me”
<table>
<thead>
<tr>
<th>Number of guests</th>
<th>Authentication States</th>
<th>Privacy</th>
<th>Other Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mobile</strong></td>
<td>1</td>
<td>Authenticated</td>
<td>Private, Personal</td>
</tr>
<tr>
<td><strong>Stateroom</strong></td>
<td>1+</td>
<td>Recognized Authenticated (Visitors to room?)</td>
<td>Private, Personal &amp; Shared</td>
</tr>
<tr>
<td><strong>Portal</strong></td>
<td>1 (portrait) 2 (landscape - size dependency)</td>
<td>Recognized Authenticated</td>
<td>Public, Personal &amp; Shared</td>
</tr>
<tr>
<td><strong>Large/Multi-screen</strong></td>
<td>2+</td>
<td>Recognized Authenticated</td>
<td>Public, Personal &amp; Shared</td>
</tr>
<tr>
<td><strong>Tabletop</strong></td>
<td>1+ Crew member</td>
<td>Recognized Authenticated</td>
<td>Semi-Private, Personal &amp; Shared</td>
</tr>
</tbody>
</table>
Overview - Usability for large screens

What we have heard:
People should not have to move their heads or feet to interact with the design

Build "depressed" states on all your buttons so people know they were successful.

Be careful with gradients and deep blurs (on TVs)

Too much touch is tough on the arms

Subtle scaling and responsive animation are the primary ways to denote interactivity - Limit animation mostly to responses to user actions.

Avoid animations with excessive movement.

Multi guest:
Tapping and dragging on a screen where someone else is also doing the same can be problematic. Limit need for interaction where possible. (ex: if one person is dragging something, can another tap successfully?)

From afar:
Show, don’t tell. Reading lots of text on a screen across the room strains the eyes and isn’t much fun. Consider how much text your app really needs to show. What can you communicate with images or an animation instead?
1-2’ Interaction

People are various eye heights and arm lengths.

Over the head is tough on arms (and an accessibility risk)

All people will read and interact with a touch displays from closer than an arm’s length away. (1.25-2.5’)

Their eyes will be closer than they are typically to a monitor.

Once you get over about 15 inches, guest’s can’t take in much more from the viewing distance of a touch-screen (which is generally closer than a computer screen)
5-10’ Interaction (+)

Must be immediately attractive, engaging and usable to be successful.

Potential users typically have no prior experience with the interface.

Type and images must be very large to be viewable at distances.

Motion is inviting and encourages engagement.

**Pixel dimensions for 4k (@2)
Large Screens

Portal 55” Portrait
(2160 x 3840 4k @2x or 1920x1080 regular)

Premier 84” Landscape –
(3840 x 2160 4k) Multi-user

Premier 55” Portrait
(3) (2160 x 3840 4k @2x)

TV 40” Portrait - Multi-user

Table top - Multi-user (2160 x 3840 4k @2x or 1920x1080 regular)

** Native 4k = 4096 x 2160
(1.9:1 or 256:135 17:9) aspect ratio
UHDTV = 3840 x 2160 (1.78:1 or 16:9)
## Screen size and design guidelines

<table>
<thead>
<tr>
<th>Large Screens</th>
<th>Fonts</th>
<th>Touch target</th>
<th>Primary images</th>
<th>Secondary images</th>
<th>Other images</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3’</td>
<td>12px smallest readable size only for eyebrow tags. Titles at 32px Body text at 22px.</td>
<td>32px h&amp;w min.</td>
<td>640px h or w max</td>
<td>110px min</td>
<td>74px min</td>
</tr>
<tr>
<td>5’</td>
<td>18px smallest readable size only for eyebrow tags. Titles at 92px Body text at 24px.</td>
<td>64px h&amp;w min. (dpad)</td>
<td>640px h or w min</td>
<td></td>
<td></td>
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<tr>
<td>15’+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi guest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ideally, limit gestures to tap</td>
</tr>
</tbody>
</table>
Overview - Design guidelines

UHDTV = 3840 x 2160 (1.78:1 or 16:9)
save assets at 2x for 4k

FONTS:
@ 5’ OR LESS:
minimum
TITLES 32PX
BODY TEXT 22PX

@ 10’ or more:
MIN 32PX
TITLE TEXT 74PX

text width:
max 576px

SWEET SPOT
15’ approx: 1120-1280px (4k)

- 320PX IMAGE
- 640PX IMAGE
- 74-110PX IMAGE
- 32PX DPA D TARGET
- 32PX TOUCH TARGET

IMAGES VIEWABLE FROM 10’ AWAY

approx: 33-42” from floor
Thank You
Appendix


https://developer.android.com/design/tv/index.html

https://medium.com/this-also/designing-for-television-part-1-54508432830f#.8mixqsvzk


http://lust.nl/#projects-9